Analysis of the Correlation Between Healthy Lifestyle Patterns and Work Stress in Psychiatric Nurses

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Abstract

Introduction: This study explores the status of mental healthcare workers in the eastern region with respect to work pressure, health-promoting lifestyle patterns, and their related factors, which can provide an important reference to aid the formulation and development of health promotion strategies for such individuals. Methods: A total of 115 questionnaires were distributed and 112 valid questionnaires were recovered, with a recovery rate of 97.4%. The number of samples required for regression analysis was 99, as calculated using G-power software. The effect of work stress on health-promoting lifestyle patterns (β =-0.342, p<0.001) was negative, indicating that a health-promoting lifestyle was better and less stressful. Results: This accounted for 11.70% of the total variation in the health-promoting lifestyle scores (F=14.164, p<0.001, R=0.342). The important predictive variables of health-promoting lifestyle patterns had the greatest influence on work stress (β =-0.302, p=0.001). Discussion: The results of the comprehensive analysis showed that the standardized score of the health-promoting lifestyle of psychiatric nurses was 60.86 points. The overall health-promoting lifestyle of this study was lower than that of clinical nurses in two regional hospitals in Pingtung (the standardized score index is 64.84). This shows that the health-promoting lifestyle of psychiatric nursing staff is only better than that of public health-related staff in the same nursing work, and its overall health-promoting lifestyle is slightly worse than that of general nursing staff and school nurses. Conclusions: This influence was negative, indicating that the greater the work pressure, the worse the implementation of health-promoting lifestyle patterns. Creating a friendly workplace and implementing workplace health-promoting programs, organizing and encouraging psychiatric caregivers to participate in networking activities, and form families can help reduce mental health care workers' work pressure, improve health, and promote lifestyle participation thus maintaining physical and mental health status.

Keywords: healthy lifestyle patterns, psychiatric nurses, work stress, health promotion strategy

1. Introduction

With the government's promotion of the goal to return psychiatric patients to the community, and the reform of the national health insurance policy, the treatment of psychiatric patients has gradually shifted from emphasizing acute and chronic inpatient care to community mental health care: the ability to provide services including prevention, treatment, care, empowerment and rehabilitation (National Health Research Institutes, 2022). Psychiatric nurses provide care for patients with mental disorders, specific to each individual according to the characteristics and progression of the disease. Due to the uniqueness of nursing, the work pressure of psychiatric nurses has been researched nationally and internationally. Results show that psychiatric nursing jobs present medium to high levels of work stress (Shin, 2022; Itzhaki, et al., 2018; Yang, et al., 2016). Clinically, in addition to facing and dealing with patients' violent aggression, irritability, self-injury, suicidal behavior, and forming therapeutic relationships from time to time, it is also necessary for nurses to assist the patient in establishing a sense of disease awareness, undertake administrative duties and hide or suppress their own emotions. Emotional burnout and depression are associated with poor health-promoting lifestyle (Yang, 2013; Chang, 2014), poor emotional intelligence, and emotional management (Yang, 2015). Thoughts and feelings are used to show professional attitudes and positive emotions, which result in the accumulation of physical and mental load in the long run. A lack of appropriate stress-coping ability can lead to a vicious cycle, which may eventually lead to

exhaustion, highlighting the latent mental and physical concerns of psychiatric nurses (Yang, et al., 2016; Ming, et al., 2016; Lin, et al., 2014; Leka, Hassard &Yanagida, 2012; Mark & Smith, 2012). A related study on psychiatric nurses found that the higher their work pressure, the worse their perceived health (Yang, et al., 2016; Conradie, et al., 2017). In addition to facing sudden medical violence from patients, which threatens their physical and mental health, psychiatric nurses also need love and patience to continue to invest in professional care. Many staff members suffer from long-term health problems caused by work pressure (Leka, Hassard & Yanagida, 2012). The higher the work pressure, the worse the perceived health (Yang, et al., 2016).

In a 2021 report by the World Health Organization (WHO) cancer, diabetes, cardiovascular disease, and chronic respiratory disease accounted for approximately 68% of global deaths in 2019. (WHO, 2021). Among the top ten causes of death in Taiwan in 2020, heart disease (11.8%) ranked second only to malignant tumors (28.9%). The top ten causes of death, eight of which were chronic diseases, accounted for 77.8% of the total deaths (Ministry of Health and Welfare, 2019). The National Health Administration proposes that chronic diseases are caused by unhealthy living habits, and the occurrence of chronic diseases must be prevented by creating a supportive healthy environment, and learning and practicing a health-promoting lifestyle. The Ministry of Health and Welfare adheres to promoting the mission of national health and well-being, and has put forward eight important policies, one of which is "to create a supportive environment for physical and mental health, and to promote whole-person health promotion" (Health Promotion Administration, 2021; Statistics Division, Ministry of Health and Welfare, 2022). The reference results show that psychiatric nursing jobs present medium to high levels of work stress. A lack of appropriate stress coping ability can lead to a vicious cycle, which may eventually lead to exhaustion, highlighting the latent mental and physical concerns of psychiatric nurses.

The study on psychiatric nurses found that the higher their work pressure, the worse their perceived health. The higher the work pressure, the worse the perceived health. This shows that high work pressure poses a threat to the physical and mental health of psychiatric nurses, and they need to implement a health-promoting lifestyle.

This study explores the status of mental healthcare workers in the eastern region with respect to work pressure, health-promoting lifestyle patterns, and their related factors, which can provide an important reference to aid the formulation and development of health promotion strategies for such individuals.

2. Method

2.1 Participants

The research period was from November 2018 to November 2019, with full-time nurse practitioners willing to accept questionnaires and engaged in clinical work in a psychiatric hospital in the East as research subjects. (Figure 1)



Figure 1. Flowchart of the study

This was a cross-sectional study that used structured questionnaires and research assistants to collect data, and G-power software to calculate the number of samples required for regression analysis. There were 11 independent variables in total. F-tests and statistical method linear multiple regression were used: fixed model, R2 deviation from zero; the first type error was set to $\alpha = 0.05$, the test power was power = 0.8, and the explanatory power was directly determined to be R2 = 0.16 (with a moderate effect). The required sample size was 99. A total of 115 questionnaires were distributed, and 112 cases were returned in this study (three questionnaires were not returned, because they did not want to participate in the research); the questionnaire recovery rate was 97.39% with 112 valid questionnaires. This study was conducted in accordance with the provisions of the Declaration of Helsinki (1995) and approved by the X Hospital, Ministry of Health and Welfare Ethics Committee (IRB-107XX).

2.2 Measures

2.2.1 Characteristics of Participants

Age, education level, marital status, number of children, job title, seniority, income, religion, work unit, shift situation and living situation were considered; the contents of the questionnaire included the Work Stress Scale and Health Promotion Lifestyle second edition Scale (Chinese version).

2.2.2 Work Pressure Scale

The "Work Stress Scale" compiled by Chen Su-Zhang (1981) was used to measure working pressure upon receiving informed consent. The scores range from "strongly disagree" (1 point), "disagree" (2 points), "normal" (3 points), "agree" (4 points) to "strongly agree" (5 points), of which the 9th question, and questions 12 to 19 are reverse scored questions, and the rest are positive questions. The higher the total score, the greater the work pressure. After the content validity test and factor analysis, the scale included five aspects: anxiety, fatigue, depression, dissatisfaction and low self-esteem. The internal consistency of the overall scale reliability, Cronbach's alpha value, is 0.70, and that of each subscale is 0.70. (0.48-0.82) (Chen, 1981). The internal consistency of the scale used in this study is 0.89.

2.2.3 Health Promoting Lifestyle Scale

This study adopted the Chinese version of the Health Promotion Lifestyle Scale (2nd edition) revised by Professor Teng and Yan in 2007 (Teng & Yen,2014). The original author of the scale, Walker et al.¹⁸, and the revised authors, Deng and Yan, gave permission to use it. The scale has a total of 52 questions, which are filled out using Likert's four-point scale, which are "always" (4 points), "often" (3 points), "occasionally" (2 points) and "never" (1 point); the higher the score, the better the health-promoting lifestyle. After the content validity test and factor analysis, the scale has been divided into the following six dimensions: health responsibility, physical activity, nutrition, spiritual growth, interpersonal relationships and stress management (Walker, Sechrist & Pender, 1987). The results show that the internal consistency reliability coefficient of the total scale, Cronbach's alpha value, is 0.96, and each subscale is 0.76-0.90 (Tsa, 2015). The internal consistency of the reliability of the research scale was 0.97, whereas the subscales ranged from 0.85 to 0.92.

2.3 Analysis

After the questionnaires were collected, the data were logged in and coded, and SPSS (version 22.0) was used for statistical analysis. The basic data of psychiatric nursing staff were analyzed using descriptive statistics, including age, education level, marital status, number of children, job title, salary treatment, work seniority, religious beliefs, work unit, shift situation, and residence situation. Statistical items including frequency distribution table and percentage were used to describe the category variables in personal basic data. The mean and standard deviation were used to describe the continuous variables in the basic data to understand the characteristics of different individuals and organizations.

The t-test was used to analyze the sociodemographic variables of psychiatric nursing staff, such as marital status (married/widowed, unmarried/divorced), shift status (three shifts, fixed shifts), etc. in relation to work stress and health promotion. One-way ANOVA was used to test psychiatric nursing staff with different attributes: age, education level, number of children, job title, income, working experience, religious belief, work unit, and living situation. If the F value indicates a significant difference, a post-hoc test is to be performed to determine whether there is a significant difference in the demographic variables of work stress and health-promoting lifestyles. Pearson product-moment correlation was calculated between work stress and health-promoting lifestyle of psychiatric nurses, and a stepwise regression statistical analysis of work stress and the main influencing factors of health-promoting lifestyles was conducted.

3. Results

3.1 Demographic Characteristics of Sample

The psychiatric nursing staff was mostly aged 31-40 years old; 70% of them had graduated from university and more than half were unmarried and had no children. Most of them identified as non-believers in terms of religious beliefs, followed by Buddhists and Taoists, and many were living with family members. In terms of years of service, the majority were those with 6-10 years of experience, followed by those with 1-5 years of experience; and most of them were nurses with a monthly salary of 40,001-50,000 yuan. Service units were mostly inwards and three shifts were the most common (Table 1).

Tal	bl	e	1.	Demograp	hics
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Variable	Number (%)	Others
Age		
21-30 у/о	30(26.80)	
31-40 y/o	44(39.30)	
41-50 y/o	33(29.50)	
51 y/o above	5(4.50)	
Education		
Senior high school	3(2.70)	
College	20(17.90)	
University	70(62.50)	
Institute (inclusive) or above	19(17.00)	
Marital		
Unmarried	66(58.93)	
Married	46(41.07)	
Number of children		Missing=1
0	62(55.90)	
1	18(16.20)	
2	18(16.20)	
3 above	13(11.60)	
Job title		
Nurse(Senior high school)	12(10.70)	
Nurse(University)	87(77.70)	
Manager (Head Nurse, Supervisor)	13(11.60)	
Seniority		
1 year	10(8.90)	
1-5 year	27(24.10)	
6-10 year	27(24.10)	
11-15 year	19(17.00)	
16-20 year	11(9.80)	
21 year above	18(16.10)	
Income		
40,000 Taiwan dollar /month (below)	33(29.50)	
40,001-50,000 Taiwan dollar /month	51(45.50)	
50,001-60,000 Taiwan dollar /month	20(17.90)	
60.001 Taiwan dollar /month (above)	8(7.10)	

Religious beliefs		
Buddhism	24(21.40)	
Taoism	29(25.90)	
Christianity	19(17.00)	
Catholic	7(6.30)	
None or other	33(29.50)	
Work unit		Missing=1
Outpatient, home care	12(10.80)	
Ward	81(73.00)	
Nursing Administrative Unit	18(16.20)	
Shift situation		
Three shifts	67(59.80)	
Fixed day	36(32.10)	
Fixed evening	2(1.80)	
Fixed night	7(6.30)	
Living situation		Missing=1
Living alone	9(8.10)	
Live with family	61(55.00)	
Live with friends	4(3.60)	
Dormitory	36(32.40)	
Other	1(0.90)	

3.2 Results on Outcome Measures

The current distribution of work stress of the research objects (Table 2, Table 3).

(N=112)

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Domains	Number of	Total score	Actual	Overall	Total score	Average score
	questions	range	score range	score	SD	per question
				average		
Overall	19	19-95	30-79	55.24	9.51	2.91
Anxiety	4	4-20	4-20	10.97	3.24	2.74
Fatigue	4	4-20	4-17	12.51	2.52	3.13
Depression	4	4-20	5-15	11.09	2.06	2.77
Dissatisfaction	4	4-20	6-20	11.87	2.64	2.97
Low self-esteem	3	3-15	3-15	8.79	2.04	2.93

Table 3. Descriptive Statistics of Work Stress Scale					(N=112)	
Item content	М	SD	Min	Max	Sequence	
Work Stress	55.24	9.51	30	79		
Anxiety	10.97	3.24	4	20		
1. My work makes me feel restless	2.64	0.94	1	5	15	
2. Problems at work often keep me awake at night	2.60	0.97	1	5	17	
3. I often feel nervous at work	3.00	1.01	1	5	7	
4. I often suffer from hyperacidity due to work	2.73	1.02	1	5	14	
Fatigue	12.51	2.52	4	17		
5. I feel fatigued after getting off work every day	3.54	0.79	1	5	1	
6. I find it very difficult to get up early	3.16	1.10	1	5	3	
7. It might help my health if I change jobs	3.18	1.02	1	5	2	
8. I feel lethargic at work	2.63	0.78	1	4	16	
Depression	11.09	2.06	5	15		
9. I feel that I am a useful person in the unit/organization	2.45	0.75	1	5	19	
10. I feel grumpy at work	2.99	0.97	1	5	8	
11. I feel depressed and sullen at work	2.59	0.83	1	5	18	
12. I am hopeful about my job prospects	3.05	0.68	2	5	5	
Not satisfied	11.87	2.64	6	20		
13. I am very satisfied with my current job	2.99	0.72	2	5	8	
14. Very much in line with my expectations for this job	3.04	0.75	1	5	6	
15. If I choose to work again, I will not hesitate to	3.10	0.89	1	5	4	
choose the same service unit again						
16. If my friend told me he was interested in my work, I	2.75	0.92	1	5	13	
would highly recommend him						
Low self-esteem	8.79	2.04	3	15		
17. My work gives me a sense of accomplishment	2.96	0.82	1	5	10	
18. I feel that my current position team/organization is	2.92	0.74	1	5	11	
extremely important						
<u>19.</u> I feel working in this position allows my talents to be	2.92	0.73	1	5	11	
fully utilized						

Note: If an underline is added below the question number, it means that the item is a "reverse scoring question," and a question without a bottom line is a "forward scoring question."

3.2.1 The Relationship Between Sociodemographic Variables and Work Stress

The sociodemographic variables were age (F=2.27, p=0.108), education level (F=0.70, p=0.501), marital status (t=1.82, p=0.072), number of children (F=1.14, p=0.338), job title (F=0.03, p=0.966), years of service (F=0.84, p=0.505), income (F=2.66, p=0.075), religious beliefs (F=0.76, p=0.518), work unit (F=0.70, p=0.498), shift status (t=0.52, p=0.603) and living situation (F=2.34, p=0.101) The total score of work stress was not statistically significant, indicating the presence of differences due to the above variables.

3.2.2 Association of Sociodemographic Variables With Health-Promoting Lifestyles

The associations of age (F=2.32, p=0.103), education level (F=1.14, p=0.323), number of children (F=2.05, p=0.111), job title (F=0.52, p=0.596), years of service (F=1.37, p=0.250), income (F=2.43, p=0.093), religious beliefs (F=1.08, p=0.362), work unit(F=1.50, p=0.229), shift status (t=-1.05, p=0.298) and living situation (F=1.56, p=0.214) with health-promoting lifestyle were statistically significant; indicating that the health-promoting lifestyle would not differ from the above-mentioned situations. However, when their marital status was different, their health-promoting lifestyles were significantly different (t=-2.87, p=0.005), and married health-promoting lifestyles were found to be better than unmarried lifestyles.

3.2.3 The Relationship Between Work Stress and Health-Promoting Lifestyle

The results showed that work stress of psychiatric specialist nurses was significantly negatively correlated with health-promoting lifestyles (r=-0.331, p<0.001); when psychiatric nurses were under greater job pressure, their health-promoting lifestyle performance was poorer.

3.2.4 Predictors of Work Stress and Health-Promoting Lifestyle

3.2.4.1 Predictors of Work Stress

According to the results of stepwise regression analysis, the variable with significant predictive power of work stress in psychiatric nursing staff was a health-promoting lifestyle (β =-0.342, p<0.001); other sociodemographic variables were excluded, and there was no significant predictive power for work stress. This indicates that the better the performance of a health-promoting lifestyle, the lower the work pressure. This variable explained 11.70% of the total variance in health-promoting lifestyle scores (F =14.164, p <0.001, R =0.342) (Table 4).

Variables	Reference group	Regression coefficients	Standard Regression coefficients	Т	Р	VIF	<i>R</i> ²	R ² increase	F value adjusted	F value adjusted P-value
Constant		156.343		9.635	<0.001***					
Work pressure		-0.807	-0.302		0.001	1.038	0.117	0.117	14.164	< 0.001
Marital status	unmarried	10.611	0.207	20278	0.025	1.038	0.158	0.041	5.189	0.025
(married)										

Table 4. Health-promoting lifestyle regression

Note: p<.05*; p<.01**; p<.001**

3.2.4.2 Predictors of Health-Promoting Lifestyles

The variables with significant predictive power for health-promoting lifestyles of psychiatric nurses were work stress and marital status, while other sociodemographic variables were excluded as they showed no significant predictive power for health-promoting lifestyles. Work stress had the greatest impact (β =- 0.302, p=0.001), indicating that the greater the work pressure, the worse the implementation of a health-promoting lifestyle. Marital status was the second most influential factor ($\hat{1} \ge 0.207$, p=0.025). Those who were in a married relationship (married) had a better degree of implementation of health-promoting activities. The above two variables explained 15.80% of the total variance in the health-promoting lifestyle score (F=9.954, p<0.001, R=0.398).

4. Discussion

The results of the study showed that the highest score of psychiatric nurses on the Work Stress Scale (the total score may range from 19 to 95 points) was 79 points and the lowest score was 30 points. This result is similar to those of many past studies, and most of them find that the work pressure of psychiatric nursing staff is in the medium-to-high range (Shin, 2022; Conradie, et al., 2017). Among the five aspects of work stress, the fatigue aspect had the highest score, with an average score of 3.13 points per question, followed by dissatisfaction at 2.97 points and low self-esteem at 2.93 points. The research results show that the total average score of work stress is similar to that of Wu (2017) for the total average score of work stress of nursing staff in a hospital in the eastern region, which is 56.40 points. In addition, the results are also compared with the average total score of work stress measured by Li (2010) for the public health staff of the Taipei City Health Service Center, 58.11 points; and Tsai (2015), who calculated the average total score of night shift managers in criminal correction institutions, 57.93 points. There is a minor difference between the two scores; nursing staff is similar to health staff and night management staff, all of which are medium-to-high work-pressure jobs.

According to the results, psychiatric specialist nurses face psychiatric patients who need long-term care when they go to work, and they deal with a number of psychological and spiritual care cases, resulting in easy fatigue. However, in this specific specialty, they can develop better self-identity and increased self-efficacy.

It was found that nurses who work in psychiatry have better psychological stress management skills, and the average score for each item of anxiety, depression, dissatisfaction, and low self-esteem was lower than three points on the Likert scale; and eastern nursing staff studies showcased similar results (Wu, 2017). The average score of each question of fatigue and depression was higher than three points on a Likert scale, which shows that the subjects in this study can have better coping and adjustment methods in terms of psychological pressure adjustment.

The results of the comprehensive analysis showed that the standardized score of the health-promoting lifestyle of psychiatric nurses was 60.86 points. The overall health-promoting lifestyle of this study was lower than that of clinical nurses in two regional hospitals in Pingtung (standardized score index is 64.84) (Chiu, 2017). This shows that the health-promoting lifestyle of psychiatric nursing staff is only better than that of public health-related staff in the same nursing work, and its overall health-promoting lifestyle is slightly worse than that of general nursing staff and school nurses.

The interpersonal relationship score is the highest among the six dimensions of health-promoting lifestyle of psychiatric specialist nurses, indicating that psychiatric nurses attach importance to interpersonal interaction and development; and can use verbal or non-verbal communication to develop social support systems, such as being able to express care, love and kindness to others easily, being supported by a group of caring people and maintaining meaningful and fulfilling relationships with others, and so on (Han, 2013; Wu, et al., 2013; Hu, Ho & Lin, 2012; Chen, et al., 2011). Among the six dimensions of health-promoting lifestyle, the lowest score is for the physical activity dimension, indicating that psychiatric nurses are most likely to ignore sports and leisure activities that enhance physical activity and fitness in their daily lives (Tsai, 2015; Han, 2013; Wu, et al., 2013; Hu, Ho & Lin, 2012; Chen, et al., 2011). Corresponding to the work stress scale scores in this study, the three highest scores are all indicators of fatigue, "I feel very tired after getting off work every day," "It may help my health if I change jobs," "I find it necessary to It's very difficult to get up early", and then show the fatigue and stress that psychiatric nurses feel upon getting off work. After work, they usually eat quick and simple meals. After washing up, they engage in some static leisure, such as watching dramas and surfing the Internet, playing on mobile phones, reading books, magazines, or comics, or going to bed early to catch up on sleep (Lin, Liang & Chang, 2017). They face more than 8 hours of physical and mental exhaustion every day. It is best to rest after getting off work to eliminate fatigue and restore physical strength. It is also necessary to sacrifice precious rest time to engage in leisure activities that enhance self-health and physical fitness, perhaps naturally, not within the scope of consideration.

This study found that there were significant differences between marital status and health-promoting lifestyles, and those who were married had better health-promoting lifestyles than those who were not married (Han, 2013; Hu, Ho & Lin, 2012; Cheng, et al., 2015). This shows that those who are married have the responsibility to protect the family. To maintain and protect the safety and happiness of families, they must first have good health and physical fitness. Therefore, they are more likely to pay more attention to the implementation of a health-promoting lifestyle.

This study also found a negative correlation between work stress and a health-promoting lifestyle, a finding that was consistent with past experiences in psychiatric nurses, uniformed officers, elementary school teachers, telephone service workers, hairdressing practitioners, taxi drivers and criminal correction managers (Yang, et al., 2016; Tsai, 2015; Lin, Liang & Chang, 2017; Tsai & Liu,2012). Regardless of the industry, the greater the work pressure, the worse the performance of health-promoting lifestyles. The study also found that work stress was a predictor of a health-promoting lifestyle, which was significantly different in the past for military and police officers, nurses, and service workers (Tsai, 2015; Lin, Liang & Chang, 2017, Hu, Ho & Lin, 2012). From the above, it can be seen that the health-promoting lifestyles of psychiatric nurses are affected by work pressure and marital status. If effective and diverse intervention strategies are designed from this point on, it will be helpful for the implementation and improvement of health promotion activities.

5. Conclusions

The results of this study found that the health-promoting lifestyle of psychiatric nurses was low in the implementation of physical activity, and the top three items with the lowest scores were "exercise at least 3 times a week for at least 20 minutes each time," "exercise has planned exercise classes," "recreational physical activity in leisure time"; while work stress and marital status were the best predictors of health-promoting lifestyle

among psychiatric nurses. Work pressure is a problem faced by the executives of psychiatric medical institutions. In addition to creating a safe and friendly workplace in the work environment, appropriate channels and resources should also be arranged to assist staff in dealing with stress. Relevant sports clubs should be organized to encourage employees to cultivate regular leisure activities and increase the number of employees. link and exchange between and enhance its sporting ethos.

The limitation of this study for the Eastern Taiwan Psychiatric Hospital cannot be inferred to all parts of the country, and it is suggested that future studies can extend the recipients to various psychiatric medical institutions across the country. Meta-analysis was used to compare differences in work stress and health-promoting lifestyle patterns among psychiatric care workers across the country. It is recommended to use interventional research to enhance workplace health promotion, and summarize the most effective schemes and models for nursing staff to reduce stress and healthy living patterns.

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